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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,533	12/17/2003	Kenichi Ogawa	246747US2X	4429
22850	7590	10/04/2007		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER LAURITZEN, AMANDA L	
			ART UNIT 3737	PAPER NUMBER
			NOTIFICATION DATE 10/04/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/736,533

Applicant(s)

OGAWA, KENICHI

Examiner

Amanda L. Lauritzen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 5-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 5-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Response to Arguments

This action is in response to the Amendment submission of 18 May 2007. The previous Examiner's indication of allowable subject matter has been withdrawn. A second non-final Office action is presented herein.

Rejection of claims 1, 2, 4, 9, 10 and 12 under 35 U.S.C. 112, second paragraph, along with the formal objections, are withdrawn in view of the amendments and/or cancellation of those claims.

The replacement of Fig. 12 to show the function F3 in English as described in the specification is accepted.

DETAILED ACTION

Priority

1. Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged.

Claim Rejections - 35 USC § 103

2. Claims 1, 2 and 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasuda et al. (US 2002/0090058) in view of Ozawa (US 5,386,450).

Yasuda et al. disclose an X-ray diagnostic system (X-ray tube 5 and detector assembly 6 disposed in opposition to one another with a space therebetween, table top 9; see also [0038], [0040], [0071]). The fluoroscopic/imaging scan unit is configured to relatively move one of both the tabletop and the support apparatus to the other and to perform a fluoroscopic scan along a predetermined direction to acquire a fluoroscopic image along the direction ([0104-105], [0096-98], also Fig. 13). The system includes an imaging parameter-setting unit that sets parameters

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for every region to be examined, the regions being at least continuous without a gap along the direction determined with respect to the object ([0080-81], [0089], [0142-0144], Fig. 10). The method includes injection of a contrast agent, which is understood to be administered prior to diagnostic imaging so that it is within the body while images are acquired [0008], [0010].

Yasuda et al. disclose all features of the invention as substantially claimed as detailed above, and while it is disclosed that the tabletop and/or support apparatus are moved, it is not detailed that the relative moving speed will match that of the contrast agent flowing in the object; however, Ozawa teaches automatically moving a bed on which a patient is laid according to the flow of a contrast media injected (abstract; col. 2, lines 12-26; also lines 44-49). It would have been obvious to one ordinarily skilled in the art to provide a relative moving speed of the patient support that matches that of the contrast agent, as taught by Ozawa, and incorporate this into the motion of the patient platform disclosed in Yasuda et al., for the purpose of reducing load on an operator and decreasing the quantity of radiation to which the patient is exposed (Ozawa, col. 9, lines 17-21). The system of Ozawa further includes controller for controlling the radiation field of the X-rays on the object in the specified direction and is dependent upon the moving speed and the imaging parameters (col. 10, lines 54-56).

Regarding claims 2 and 6, the systems of both Ozawa and Yasuda et al. are specific to include inputting means and manual operation (at least disclosed in the abstract of Yasuda et al.; also [0082]). Yasuda further discloses a region-specifying unit that designates a region of interest and controls the radiation field in response to a position of the imaging scan at a specific region (abstract; also [0079-83]).

Regarding claims 7-11, the system of Ozawa includes an algorithm intended to automatically trace the flow of the contrast agent and adjust motion and/or speed of the patient platform accordingly (col. 5, line 19 – col. 6, line 17). This algorithm is understood to encompass pattern recognition techniques (col. 5, lines 56-61; also Fig. 6 in which determining the presence of a vector within a semicircular zone is flow pattern recognition). Yasuda et al. additionally disclose pattern recognition in automatic determination of a region through which the X-ray contrast agent flows and setting the imaging parameters based on this result.

3. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yasuda et al. and Ozawa, as applied to claims 1, 2 and 6-11 above, further in view of Karellas et al. (US 2003/0169847).

The disclosure of Yasuda et al. as appended by that of Ozawa includes all features of the invention as substantially claimed, including operator inputting means for control of various acquisition parameters, but is not specific to adjusting a frame rate; however, in the same field of endeavor, Karellas et al. disclose a system and method for X-ray fluoroscopic imaging with movement of a patient table and tracking of the movement of a contrast agent while providing a control mechanism for frame rate selection [0145; 0185-6]. It would have been obvious to those ordinarily skilled in the art at the time of invention to include a frame rate adjustment, in order to provide higher frame rates that enable the counting of X-ray events and measures of X-ray transmission [0011].

4. Claims 8 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasuda et al. and Ozawa, as applied to claims 1, 2 and 6-11 above, further in view of Okabe et al. (US 4,766,603).

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The disclosure of Yasuda et al. as appended by the teachings of Ozawa includes all features of the invention as substantially claimed, but is silent regarding X-ray field control and collimator and/or aperture adjustment. In the same field of endeavor, Okabe et al. show an aperture collimator device that controls a radiation field that is precisely identical with a predetermined area of a fluoroscopic scan, and is based on various sensed inputs (col. 2, lines 44-48; col. 3, lines 42-65; Figs. 5 and 6). It would have been obvious to one of ordinary skill in the art at the time of invention to implement the teachings of Okabe et al. in the method of Yasuda et al. as modified by Ozawa to substantially eliminate scattered radiation, as this is known to improve image quality.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amanda L. Lauritzen whose telephone number is (571) 272-4303. The examiner can normally be reached on Monday - Friday, 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian L. Casler can be reached on (571) 272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


ALL
9/21/2007


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